LISTINGS OF THE CLAIMS:

Please **cancel** claims 21-29 without prejudice.

Please **amend** the claims as follows:

1. (Currently amended) A method of forming an alignment film comprising:

forming a first ion beam;

transforming the first ion beam into a second ion beam;

transforming the second ion beam into an atomic beam;

irradiating ~~an~~ the atomic beam onto a thin film including a carbon-carbon double bond to form a polarized functional group by transforming the carbon-carbon double bond into a carbon-carbon single bond and a radical state; and

combining a polarity preserving material with the polarized functional group so as to preserve a polarity of the polarized functional group.

2. (Original) The method of claim 1, wherein the polarity preserving material is a hydroxyl radical (OH-), water being provided to a surface of the thin film, so that the hydroxyl radical (OH-) is combined with the polarized functional group.

3. (Original) The method of claim 2, wherein the water is in a vapor state.

4. (Original) The method of claim 1, wherein the polarity preserving material is combined with the polarized functional group by:

providing water to a surface of the thin film including the polarized functional group; and

irradiating an ultraviolet light onto the surface of the thin film to combine hydrogen ions with the polarized functional group.

5. (Original) The method of claim 1, wherein the polarity preserving material is combined with the polarized functional group by:

dissociating nitrogen gas into nitrogen ions at a pressure that is lower than an atmospheric pressure; and

providing the nitrogen ions to the surface of the thin film to combine the nitrogen ions with the polarized functional group.

6. (Original) The method of claim 5, wherein the nitrogen gas is heated at a temperature above about 2500K to be dissociated into the nitrogen ions.

7. (Original) The method of claim 5, wherein the nitrogen gas undergoes electric fields to be dissociated into the nitrogen ions.

8. (Original) The method of claim 1, wherein the polarity preserving material is hydrogen ions, hydrogen gas being dissociated into the hydrogen ions under vacuum, so that the hydrogen ions being combined with the polarized functional group.

9. (Original) The method of claim 8, wherein the hydrogen gas is heated to be transformed into hydrogen ions at a temperature above about 2500K.

10. (Original) The method of claim 8, wherein the hydrogen gas is dissociated by applying electric fields to the hydrogen gas.

11. (Currently amended) The method of claim 1, wherein ~~the polarized functional group is formed by:~~

~~forming a~~ the first ion beam ~~that~~ forms a first angle with respect to the thin film~~;~~ ~~transforming the first ion beam into a second ion beam,~~ and a cross section of the second ion beam has ~~having~~ a square-shape~~; and~~

~~transforming the second ion beam into the atomic beam~~.

12. (Original) The method of claim 11, wherein the first ion beam is formed by:

providing a source gas;

dissociating the source gas into ions; and

accelerating the ions to form the first ion beam.

13. (Original) The method of claim 12, wherein the source gas is an argon (Ar) gas.

14. (Original) The method of claim 12, wherein the argon (Ar) gas is heated at a temperature above about 2500K to be dissociated into argon ions.

15. (Original) The method of claim 12, wherein the argon (Ar) gas is dissociated by applying plasma-generating electric fields to the argon (Ar) gas.

16. (Original) The method of claim 11, wherein the first ion beam is allowed to pass through an outlet of a housing to be focused.

17. (Original) The method of claim 16, wherein the outlet of the housing has a rectangular shape.

18. (Original) The method of claim 11, wherein the atomic beam is formed through intersecting the second ion beam with an electron beam.

19. (Original) The method of claim 18, wherein the electron beam is formed by:

heating a tungsten filament to emit electrons; and

accelerating the electrons in a direction that is substantially perpendicular to a direction of the second ion beam.

20. (Original) The method of claim 19, wherein the electrons are accelerated due to an electrode having a positive polarity, the electrode being disposed at an opposite position to the tungsten filament with respect to the second ion beam.

Claims 21-29 (Canceled)